

ENS-DJ

CLAIMS

1. An electrode arrangement, in particular for the intracardial discharge of defibrillation pulses in the atrium or the ventricle of a heart, having an electrode line which in the region of its distal end has a plurality of electrically conductive surface portions as electrodes, which can be electrically connected by way of the electrode line to an electrical pulsedischarging device such as a defibrillator, characterised in that in the electrode-bearing region of its distal end the electrode line is adapted to be split into at least two respective electrode-bearing branches.
2. An electrode arrangement according to claim 1 characterised in that at the distal end of the electrode line the electrode-bearing region has splitting means which are adapted to split up the electrode-bearing region and which are connected to actuating means which are arranged at the proximal end of the electrode line.
3. An electrode arrangement according to claim 1 or claim 2 characterised in that the electrode-bearing region has a shaping structure in at least one of the branches, which is activatable simultaneously with or after the splitting-up step, and which is such that a first of the branches assumes a shape as a septal branch and a second branch assumes a shape as a lateral branch for assuming a septal position and a lateral position in the atrium or the ventricle of a heart.
4. An electrode arrangement according to claim 3 characterised in that the shaping structure has a memory metal structure in at least one of the branches, which is of such a nature that it involves a predetermined change in shape which can be triggered off by an event such as a change in temperature.

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5. An electrode arrangement according to claim 4 characterised in that the memory metal structure contains titanium.
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6. An electrode arrangement according to <sup>claim 1</sup> ~~one of claims 1 to 5~~ characterised in that the branches are respectively provided with an equal number of electrodes, wherein each electrode of a branch is unambiguously associated with an electrode of the other branch.
- a
7. An electrode arrangement according to <sup>claim 1</sup> ~~one of claims 1 to 6~~ characterised in that each branch carries 5 to 7 electrodes.
- a
8. An electrode arrangement according to <sup>claim 1</sup> ~~one of claims 1 to 7~~ characterised in that the electrode-bearing region at the distal end of the electrode line can be split into two branches which are respectively provided with equidistantly arranged electrodes, wherein each electrode of a branch is associated in paired relationship with an electrode of the other branch for the discharge of bipolar pulses.
9. An electrode arrangement according to claim 3 and claim 8 characterised in that the electrodes are arranged on the lateral and the septal branches in such a way that in the atrium of a heart they assume such positions that each two electrodes with are associated with each other in paired relationship can produce defined layers, starting from the transition of the upper vena cava of the heart into the atrium thereof, subdividing the atrium, in parallel successive relationship.
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10. An electrode arrangement according to <sup>claim 1</sup> ~~one of claims 1 to 9~~ characterised in that the electrodes are in the form of tip or ring electrodes.
- a
11. An electrode arrangement according to <sup>claim 1</sup> ~~one of claims 1 to 10~~ characterised in that the electrodes of a branch are respectively at a spacing of about one

centimetre relative to the adjacent electrode or the adjacent electrodes

12. An electrode arrangement according to ~~one of claims 1 to 11~~ <sup>claim 1</sup> characterised by an additional branch which is adapted to assume a position in the ventricle and which has at least one ventricle electrode.

- Add 23

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